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INCH-POUND

MS75089C
3 March 1999
SUPERSEDING
MS75089B
4 September 1985

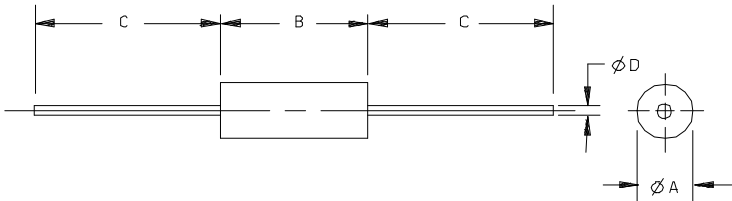
MILITARY SPECIFICATION SHEET

COILS, RADIO FREQUENCY, MOLDED, FIXED, MICRO-MINIATURE
MAGNETICALLY SHIELDED, (FERRITE CORE-FERRITE SLEEVE)
TYPES LT10K217 TO LT10K263

Inactive for new design after 4 September 1985.
For new design, use MIL-PRF-39010/3.

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-PRF-15305.



*

Ltr	Dash numbers -01 through -47		C Dash numbers -48 through -94	
	Dimensions in inches with metric equivalents (mm) in parentheses		Dimensions in inches with metric equivalents (mm) in parentheses	
	Dimensions	Maximum	Dimensions	Tolerance
ϕA	.152 (3.86)	.172 (4.37)	.152 (3.86)	.197 (5.00)
B	.390 (9.91)	.430 (10.92)	.390 (9.91)	.447 (11.35)
C	1.250 (31.75)	1.626 (41.30)	1.250 (31.75)	1.626 (41.30)
ϕD	.023 (0.58)	.027 (0.69)	.023 (0.58)	.027 (0.69)

- NOTES:
1. Dimensions are in inches.
 2. Metric equivalents are given for information only.
 3. These coils are intended to be supported by their bodies.
 4. Tinned copper lead wire, AWG 22.

FIGURE 1. Dimensions and configurations.

REQUIREMENTS:

Design, construction, and physical dimensions: See figure 1.

Style: LT10

Grade: 1

* Class: A

Weight: 0.035274 ounces maximum.

Operating temperature range: -55°C to +105°C.

Ambient temperature: 90°C maximum.

Temperature rise: 15°C maximum.

Terminal pull: 5 pounds minimum.

Altitude: 70,000 feet.

Shock, specified pulse: Method 213 of MIL-STD-202, test condition I, is applicable.

Dielectric withstanding voltage:

At sea level: Method 301 of MIL-STD-202, test voltage 1,000 V rms for a minimum of 60 seconds.

At reduce barometric pressure: Method 301 of MIL-STD-202, test voltage 200 V rms for a minimum of 60 seconds.

Barometric pressure (reduced): Method 105 of MIL-STD-202, test condition C, is applicable.

Percent coupling: 3 percent maximum.

Electrical characteristics: See table I and table II.

Inductance: See table I.

Q values: See table I.

Self-resonant frequency (SRF): See table I.

DC resistance (DCR): See table I.

* Part or Identifying Number (PIN): MS75089-(dash number from table I).

MS75089C

TABLE I. Electrical characteristics (initial).

Dash number 1/	Type designation 2/	Superseded MS PIN	Inductance (μ H) $\pm 10\%$	Test frequency (MHz)	Q (min)	SRF min (MHz)	DC resistance (ohms)	Rated DC current (mA)	Incremental current (mA)
01, 48	LT10K	MS90537-27	15.0	2.5	45	49	.80	315	250
02, 49	LT10K	MS90537-28	18.0	2.5	45	45	.89	300	235
03, 50	LT10K	MS90537-29	22.0	2.5	45	41	.96	290	220
04, 51	LT10K	MS90537-30	27.0	2.5	45	38	1.19	260	200
05, 52	LT10K	MS90537-31	33.0	2.5	45	34	1.37	240	190
06, 53	LT10K	MS90537-32	39.0	2.5	50	29	1.93	205	180
07, 54	LT10K	MS90537-33	47.0	2.5	50	27	2.11	195	175
08, 55	LT10K	MS90537-34	56.0	2.5	50	25	2.23	190	160
09, 56	LT10K	MS90537-35	68.0	2.5	50	21	2.70	170	150
10, 57	LT10K	MS90537-36	82.0	2.5	50	10.5	2.44	180	140
11, 58	LT10K	MS90537-37	100.0	2.5	50	10.0	3.12	160	120
12, 59	LT10K	MS90537-38	120.0	.79	55	9.7	3.60	150	95
13, 60	LT10K	MS90537-39	150.0	.79	55	8.5	4.10	140	90
14, 61	LT10K	MS90537-40	180.0	.79	55	8.0	4.40	135	85
15, 62	LT10K	MS90537-41	220.0	.79	55	7.5	5.00	125	80
16, 63	LT10K	MS90537-42	270.0	.79	55	7.0	5.80	115	70
17, 64	LT10K	MS90537-43	330.0	.79	55	6.5	6.40	110	65
18, 65	LT10K	MS90537-44	390.0	.79	60	6.2	7.40	105	60
19, 66	LT10K	MS90537-45	470.0	.79	60	5.7	9.50	92	58
20, 67	LT10K	MS90537-46	560.0	.79	60	4.7	10.5	90	55
21, 68	LT10K	MS90537-47	680.0	.79	60	4.5	11.8	80	50
22, 69	LT10K	MS90537-48	820.0	.79	60	4.2	13.0	80	45
23, 70	LT10K	MS90537-49	1,000.0	.79	60	3.8	17.5	70	40
24, 71	LT10K	MS90537-50	1,200.0	.25	45	1.5	22.1	60	35
25, 72	LT10K	MS90537-51	1,500.0	.25	45	1.2	26.5	55	33
26, 73	LT10K	MS90537-52	1,800.0	.25	45	1.0	29.9	50	30
27, 74	LT10K	MS90537-53	2,200.0	.25	45	.97	33.8	50	27
28, 75	LT10K	MS90537-54	2,700.0	.25	45	.92	47.3	40	25
29, 76	LT10K	MS90537-55	3,300.0	.25	45	.84	53.0	40	22
30, 77	LT10K	MS90537-56	3,900.0	.25	45	.80	73.8	35	20
31, 78	LT10K	MS90537-57	4,700.0	.25	45	.74	81.6	31	19
32, 79	LT10K	MS90537-58	5,600.0	.25	44	.73	98.9	28	17
33, 80	LT10K	MS90537-59	6,800.0	.25	40	.66	111.0	27	16
34, 81	LT10K	MS90537-60	8,200.0	.25	40	.54	119.0	26	15
35, 82	LT10K	MS90537-61	10,000.0	.25	40	.47	137.0	24	14
36, 83	LT10K	MS90537-62	12,000.0	.079	30	.33	143.0	23	13
37, 84	LT10K	MS90537-63	15,000.0	.079	30	.29	157.0	22	12
38, 85	LT10K	MS90537-64	18,000.0	.079	30	.28	175.0	21	10
39, 86	LT10K	MS90537-65	22,000.0	.079	27	.25	274.0	17	9
40, 87	LT10K	MS90537-66	27,000.0	.079	27	.21	308.0	16	8
41, 88	LT10K	MS90537-67	33,000.0	.079	27	.19	343.0	15	7.5
42, 89	LT10K	MS90537-68	39,000.0	.079	27	.17	376.0	15	6.0
43, 90	LT10K	MS90537-69	47,000.0	.079	23	.16	473.0	13	5.5
44, 91	LT10K	MS90537-70	56,000.0	.079	23	.14	512.0	13	5.0
45, 92	LT10K	MS90537-71	68,000.0	.079	23	.13	580.0	12	4.0
46, 93	LT10K	MS90537-72	82,000.0	.079	21	.12	618.0	11	3.5
47, 94	LT10K	MS90537-73	100,000.0	.079	18	.11	678.0	11	3.0

1/ The dash number added to the MS number constitutes the MS PIN, for example, MS75089-01.

2/ The coils specified herein are substitutes for the inactivated coils on MS90537, providing the small decrease in physical dimensions are not a factor. The decrease in maximum operating temperature from 125°C to 105°C does not downgrade these coils but assures satisfactory operation at 105°C for a minimum of 2,000 hours of life, rather than a shorter period of operation at 125°C.

TABLE II. Electrical characteristics (final).

Inspection group	Allowable variation from initial measurement		Allowable percent from specified minimum value in electrical characteristics (initial) table	
	Inductance (percent)	DC resistance	Self-resonant frequency	Q
Qualification inspection				
Group II	±5			-10
Group III	±10	±(5% +.001 ohm)	-15	-20
Group IV	±5	±(2% +.001 ohm)	-5	-20
Quality conformance inspection group C				
Subgroup I	±5			-10
Subgroup II	±5	±(2% +.001 ohm)	-5	-20
Subgroup III	±10	±(4% +.001 ohm)	-15	-20

Application notes:

1. After the overload test is performed, a period of 24 hours shall elapse prior to taking electrical characteristics (final) measurements.
2. DC resistance shall be the last measurement taken in the electrical characteristics test sequence.

Changes from previous issue. The margins of this specification are marked with asterisks to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army – CR
Navy – EC
Air Force – 85

Preparing activity:

DLA - CC

(Project 5950-0964)

Review activities:

Army – AR, CR4, MI
Navy – AS, MC, OS, SH
Air Force – 17, 19